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## SUBSTITUTE SPECIFICATION

### PATENT

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## METHOD INTENDED FOR GRADUAL DEFORMATION OF SEQUENTIAL SIMULATIONS OF A HETEROGENEOUS MEDIUM SUCH AS AN UNDERGROUND ZONE

*TL*

### ABSTRACT

A method of gradual deformation of representations or realizations, generated by sequential simulation, not limited to a Gaussian stochastic model of a physical quantity  $z$  in a meshed heterogeneous medium, in order to adjust the model to a set of data relative to the structure or the state of the medium which are collected by previous measurements and observations. The method comprises applying a stochastic model gradual deformation algorithm to a Gaussian vector with  $N$  mutually independent variables which is connected to a uniform vector with  $N$  mutually independent uniform variables by a Gaussian distribution function so as to define realizations of the uniform vector, and using these realizations to generate representations of the physical quantity  $z$  that are adjusted to the data.